REMARKS

This application has been carefully reviewed in light of the Office Action dated July 10, 2008. Claims 1 to 20 are pending in the application, with Claims 1, 19 and 20 being the independent claims. Reconsideration and further examination are respectfully requested.

Initially, Applicants thank the Examiner for the indication that Claims 5, 6, and 13 contain allowable subject matter and would be allowable if rewritten in independent form. Applicants have not rewritten these claims in independent form at this time, however, since all claims in the application now are believed to be in condition for allowance.

Claims 1 to 4, 7 to 11 and 15 to 20 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,487,852 ("Murphy"); and Claims 1 to 4, 7 to 12 and 14 to 20 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,546,720 ("van Nieuwstadt"). Applicants respectfully traverse.

Claims 1, 19 and 20 are patentable over the applied reference because none of the applied references are seen to disclose or suggest at least the features of a restricting or decreasing an output torque of an engine in response to detecting an abnormality occurrence in an addition device.

Murphy and van Nieuwstadt each concern controlling the addition/injection of a reactant into an engine exhaust. Murphy relies on a temperature difference measured across a catalyst to adjust the injection of reactants into the engine exhaust. See Murphy, Abstract. van Nieuwstadt, on the other hand, relies on the detection of un-reacted portions of a reactant and a substance to control the amount of reactant being added to the substance. However, neither Murphy nor van Nieuwstadt are seen to disclose or suggest restricting or decreasing an output torque of an engine in response to the detection events described in each.

Consequently, the passage (column 3, line 44 to column 4, line 30) of Murphy cited by the final Office Action neither discloses or suggests restricting or decreasing an output torque of an engine in response to detecting an abnormality occurrence in an addition device. In the cited passage, Murphy discloses operations of a processor 26 that provides a control signal 18 to a hydrocarbon (HC) injector 16 for controlling the injection of hydrocarbons (reactants) into the exhaust 12 of an engine 14. Murphy does not disclose the processor 26 controlling the output torque of the engine 14. This is evident from the figure of Murphy, which shows the control signal 18 of the processor 26 going to the HC injector 16 of Murphy to control the injection of hydrocarbons (reactants) into the exhaust 12 and not to the engine 14 of Murphy. The final Office Action appeared to rely in part on the fact that the control signal 18 is a function of engine speed and engine load. See page 9 of final Office Action. However, it does not follow from the fact that the control signal 18 is a function of certain engine operating conditions that the control signal 18 controls the output torque of the engine 14. To the contrary, the control signal 18 controls the injection of hydrocarbons (reactants) into the exhaust 12 by the HC injector 16. The controlled injection of hydrocarbons (reactants) affects the amount of NOx reduced in the exhaust 12, and not the output torque of the engine 14. Because the control signal 18 does not control the output torque of the engine 14, Murphy is not seen to disclose or even suggest at least the features of restricting or decreasing an output torque of an engine in response to detecting an abnormality occurrence in an addition device.

Similarly, the passage (column 9, line 10 to column 10, line 30) of van Nieuwstadt cited by the final Office Action neither discloses or suggests restricting or decreasing an output torque of an engine in response to detecting an abnormality occurrence in an addition device. In the cited passage, van Nieuwstadt discloses a process for determining an amount of urea to be

injected into the exhaust 12 of an engine 14 by an injector 16. Controlling the amount of urea injected into the exhaust 12 of the engine 14 does not disclose controlling the output torque of the engine 14. This is evident from figure 1 of van Nieuwstadt, which shows the urea control signal u(t) going to the urea injector 16 and not to the engine 14 of van Nieuwstadt. The final Office Action appeared to rely in part on the fact that measured inputs used to determine an amount of urea to be injected into the exhaust may be dependent on engine operating conditions (speed and load). See page 11 of final Office Action. However, it does not follow from the fact that measured inputs may be dependent on certain engine operating conditions that the urea control signal u(t) controls the output torque of the engine 14. To the contrary, the urea control signal u(t) controls the injection of urea into the exhaust 12 by the urea injector 16. Accordingly, van Nieuwstadt is not seen to disclose or even suggest at least the features of restricting or decreasing an output torque of an engine in response to detecting an abnormality occurrence in an addition device.

By restricting or decreasing the output torque of the engine when an abnormality occurs in the addition device, the engine control apparatuses and method of claims 1, 19 and 20 reduce the amount of NOx expelled from the engine when the addition device is not operating normally. This reduces the amount of NOx that would otherwise be in the exhaust when the addition device is not operating normally. Further, the reduced vehicle movement caused by the restricted or decreased torque output of the engine motivates the driver to promptly repair the addition device. This is neither taught nor suggested by Murphy or van Nieuwstadt.

Therefore, independent Claims 1, 19 and 20 are believed to be allowable over the applied references. Reconsideration and withdrawal of the § 102(b) rejections of Claims 1, 19 and 20 are respectfully requested.

The other claims rejected in the application are dependent, either directly or indirectly, from the independent claims discussed above and therefore are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

In view of the foregoing amendment and remarks, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 502203 and please credit any excess fees to such deposit account.

Applicants' undersigned representative may be reached in our Irvine, California, offices at the telephone number provided below. All correspondence should continue to be directed to the address associated with the customer number indicated below.

Respectfully submitted,

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